

AMENDMENTS TO THE CLAIMS

Claims 1 – 123. (PREVIOUSLY CANCELED)

Claim 124. (CURRENTLY AMENDED)

A wheel, comprising:

a peripheral wheel rim;

a central hub with a central axle and an outer flange;

a plurality of pretensioned spokes extending between the rim and hub, wherein said spokes have a first portion connected to said rim and a second portion opposed to said first portion and connected to said hub, further comprising means for adjusting tension in the plurality of pretensioned spokes; and

a preformed cavity formed within at least one of said outer flange and said rim for connection with at least one of said spokes,

wherein at least one of said first portion and said second portion of said at least one spoke is joined to at least one of said outer flange and said rim by means of a deformed engagement in a deformed engagement region, said cavity surrounding and enclosing the cross section of said spoke at said deformed engagement region, wherein said deformed engagement region is formed by interaction between said spoke and

preformed cavity wherein one of (1) the preformed cavity is deformed by the spoke and (2) the spoke is deformed by the preformed cavity; and

wherein said deformed engagement results in a connection to resist relative movement between said cavity and at least one of said first portion and second portion of said spoke at said deformed engagement region.

Claim 125. (CURRENTLY AMENDED)

A wheel according to claim 124, wherein said at least one spoke includes a non-circular cross-section portion located within said deformed engagement region to limit rotation of said spoke relative to said cavity.

Claim 126. (PREVIOUSLY PRESENTED)

A wheel according to claim 124, wherein said at least one of said outer flange and said rim includes raised external geometry adjacent said cavity to at least one of locally extend and locally support said deformed engagement region.

Claim 127. (CANCELED)

Claim 128. (CURRENTLY AMENDED)

The wheel of claim 124, wherein the engagement region includes contact between said at least one spoke and said cavity around the full cross-sectional perimeter of said spoke.

Claim 129. (CURRENTLY AMENDED)

The wheel of claim 124, wherein the cavity is in a polymeric element.

Claim 130. (CURRENTLY AMENDED)

The wheel of claim 129, wherein said at least one spoke is threaded in said deformed engagement region.

Claim 131. (CANCELED)

Claims 132 – 192. (CANCELED)

Claim 193. (CURRENTLY AMENDED)

A wheel comprising:

a peripheral wheel rim;

a central hub with a central axle and an outer flange;

a plurality of pretensioned spokes extending between the rim and hub, wherein said spokes have a first portion connected to said rim and a second portion opposed to said first portion and connected to said hub; and

a cavity formed within at least one of said outer flange and said rim for connection with at least one of said spokes, wherein the cavity is oriented axially and the spoke includes a bent region;

wherein at least one of said first portion and said second portion of said at least one spoke is joined to at least one of said outer flange and said rim by means of a deformed engagement in a deformed engagement region, said cavity surrounding and enclosing the cross-section of said spoke at said deformed engagement region; and wherein said deformed engagement results in a connection to resist relative movement between said cavity and at least one of said first portion and said second portion of said at least one spoke at said engagement region.

Claim 194. (NEW)

The wheel of claim 124, further including means for adjusting tension in the plurality of pretensioned spokes.

Claim 195. (NEW)

A wheel according to claim 124, including at least one reinforcement element contacting said at least one of said rim and said outer flange, wherein said reinforcement element serves to reinforce said at least one of said rim and said outer flange to resist stress and deflection associated with spoke tensile forces.

Claim 196. (NEW)

A wheel according to claim 195, wherein said reinforcement element is connected to said outer flange and is a continuous annular element, including a central opening to surround said axle, and wherein said reinforcement element provides at least one of radial and hoop stresses reinforcement to said outer flange.

Claim 197. (NEW)

A wheel according to claim 195, wherein said at least one of said spokes is positioned to contact said reinforcement element.

Claim 198. (NEW)

A wheel according to claim 195, wherein said reinforcement element is an annular guide ring which is of a harder material than the hub flange.

Claim 199. (NEW)

A wheel according to claim 124, wherein said at least one spoke includes a configured surface in said deformed engagement region, and wherein said cavity at least partially conforms to said configured surface.

Claim 200. (NEW)

A wheel according to claim 124, wherein said at least one spoke has a cross-sectional thickness in said engagement region and wherein said engagement region is a longitudinal engagement region including a longitudinal depth of engagement that is greater than said cross-sectional thickness.

Claim 201. (NEW)

A wheel according to claim 200, wherein said depth of engagement is at least two times the cross-sectional thickness.

Claim 202. (NEW)

A wheel according to claim 129, wherein said polymeric material includes reinforcement fibers.

Claim 203. (NEW)

A wheel according to claim 124, including differential hardness between the material of said cavity and the material of said spoke in said deformed engagement region, wherein one of said spoke and cavity is softer than the mating spoke or cavity.

Claim 204. (NEW)

A wheel according to claim 124, wherein said cavity includes two ends with one of said ends being at least partially closed and sidewalls extending between said two ends, and wherein said deformed engagement is between said at least one spoke and at least a portion of said sidewalls and with said at least one spoke contacting said at least partially closed end.

Claim 205. (NEW)

A wheel according to claim 124, wherein said means for adjusting tension includes means for selectively adjusting said pretension.

Claim 206. (NEW)

A wheel according to claim 205, wherein said means for selectively adjusting said pretension includes a threadable adjustment means.

Claim 207. (NEW)

A wheel according to claim 129, wherein said cavity is in a thermoplastic polymeric element.

Claim 208. (NEW)

A wheel according to claim 207, wherein said thermoplastic polymeric element includes reinforcement fibers.

Claim 209. (NEW)

A wheel according to claim 124, wherein at least one of said first portion and second portion is coupled to at least one of said outer flange and rim by means of an interference fit.

Claim 210. (NEW)

A wheel according to claim 124, wherein at least one of said first portion and second portion is joined to said cavity to maintain at least one of said cavity and spoke in a deformed condition.

Claim 211. (NEW)

A wheel according to claim 193, wherein said bent region is external to said deformed engagement region.

Claim 212. (NEW)

A wheel according to claim 211, wherein at least one of said rim and outer flange includes a spoke guiding portion that is located external to said deformed engagement region, wherein said spoke guiding portion serves to support said spoke in said bent region.

Claim 213. (NEW)

A wheel according to claim 212, including an annular supporting element that surrounds said axle, wherein said annular supporting element includes said spoke guiding portion.

Claim 214. (NEW)

A wheel according to claim 193, including at least one reinforcement element contacting said at least one of said rim and said outer flange, wherein said reinforcement element serves to reinforce said at least one of said rim and said outer flange to resist stress and deflection associated with spoke tensile forces.

Claim 215. (NEW)

A wheel according to claim 214, wherein said reinforcement element is connected to said outer flange and is a continuous annular element, including a central opening to surround said axle, and wherein said reinforcement element provides at least one of radial and hoop stresses reinforcement to said outer flange.

Claim 216. (NEW)

A wheel according to claim 214, wherein said at least one of said spokes is positioned to contact said reinforcement element.

Claim 217. (NEW)

A wheel according to claim 214, wherein said reinforcement element is an annular guide ring which is of a harder material than the hub flange.